

**ITE 1942 ICT PROJECT**

**PROJECT PROPOSAL**

**Computer-Based Inventory Management System for Galle  
Auto Parts Shop**

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# **1 CHAPTER 01 – INTRODUCTION**

## **1.1 Introduction**

In the huge development of technology, as long as people still use an automobile, also the need for auto spare parts will continue to be high in demand. This business is more profitable because the replacement of damaged auto parts is inevitable if you want your vehicle to continue to be on the road.

There are so many customers in the whole day to get their necessary parts. We can't fiddle with their time. Because they have to wait for a long time to get their required services. As well as we don't have enough space to keep social distance in the covid pandemic situation. There are so many errors in daily transactions. Newly appointed workers are not familiar with the procedure of the shop. Without checking it is difficult to look for available and unavailable stock. There are so many errors in bills. In the manual database. The books and the papers lose and misplace. There are so many other problems which will be faced by both employees and customers. When we advisably look at these consequences, I thought to give a solution to those problems.

So, this proposed system, the Inventory Management system for the shop will give solutions for those problems. Here we can check the stock and inform the customers whether these parts are available or not. Customers don't want to waste much time. They can check their bills accurately. The system can give the exact item/spare parts that he wants. The system can check the warranty quickly because it can be added to the system. There won't be any changes in transactions.

In the system, the Coding part will be developed by using C#(C-SHARP) Language. VISUAL STUDIO to design the Interface. MYSQL is the database server for storing data.

## **1.2 Background and Motivation**

Galle Auto Parts is the largest vehicle spare parts seller in the southern province. They are handling their system manually. They are selling spare parts for cars, buses, bikes, and other vehicles. They are trading brakes Pads, signal lights, silencers, headlights, body kits, engine parts, etc. They note down their transactions in books. They can't keep using this manual method. Employees are also changing from time to time. Sometimes they forget to write the transactions.

It's very hard to find their profit, income. There are more issues with the manual system as previously stated. Because of that, I started this project.

The above problems can be solved by a newly invented system. In this system, they can check stock and inform the customers whether these parts are available or not. They can check their bills accurately. They can check the warranty quickly because it can be added to the system. There won't be any changes in transactions. All the data can be saved. There won't be any changes if the employees changed. They can check the monthly profit. They can check the category that most of the parts are sold. Offers can be calculated one by one. Those are the major motivating factors for this project.

### 1.3 Problem with Manual System

As I mentioned in the earlier sections, here I have listed the major problems faced by using Manual systems.

- There should be an extra place for storing the box that is used to note down transactions. Employees are also changing from time to time.
- All the transactions and Items should be noted down in a book.
- Error in the bills and books.
- Forget to the writer the transactions.

### 1.4 Aim

- Aim of this project is to design and develop a computer-based Inventory Management System for Galle Auto Parts Shop.

### 1.5 Objectives

- All the transactions will be computerized.
- Can keep a backup.
- Can check the monthly income.
- Can check the available stocks and sold-out stocks.
- Can look for items that are highly sold.

## **2 CHAPTER 02 – RELATED WORK**

### **2.1 Manual Systems**

Galle Auto Parts is the largest Spare parts shop based on Galle. It is located near a leading vehicle sale in Galle. There are high demands for the Brakes, Signal Lights, Engine Parts, Head Light, etc. We have different sections and different employees who are divided into these sections. They are handling daily transactions in books Separately. There isn't one place to collect all the transactions. We need to get all the transactions into one place.

### **2.2 System 01 – Auto Lanka Advertising & marketing (Pvt) ltd**

They have a web page named Auto Lanka Advertising & Marketing (Pvt) Ltd. This is the largest Auto parts Shop in this area. Buy Parts, Rent Parts, Wanted Parts, Filter by Category are the functions here. There are a lot of categories as Car items, Bus Items, Motorbikes Items, etc. It has a sign-in/Register option. [1]

### **2.3 System 02 – Douglas & Sons (Pvt) ltd**

They have a web page named Douglas and Sons (Pvt) Ltd (DSL). DSL is a proud partner of the Automobile Association in Sri Lanka. They have a lot of categories. There are Batteries, Tyers, Auto Parts, Agriculture Equipment, Motorcycle & Three-wheel, Industrial Parts, and Soft Toys. [2]

### **2.4 System 03 – Grease Monkey Automobile Parts**

This is the web page of Grease Monkey Automobile Parts. This is located in the Colombo area. They have spare parts items as Cabin Filters, Horns, Engine Accessories, Meters and Gauges, Air Filters, Fuel Filters, Oil Filters, Wiper blades, etc. They have searched by Option. There are a lot of categories as Automobile tires, Engine Oil, Lubricant, Automobile Lights, Tools Equipment, Gift Collection, etc. [3]

### **2.5 System 04 – Original Equipment Manufacturer (OEM)**

This is the web page of the Original Equipment Manufacturer (OEM). They have auto parts such as Additives, Lubricants, Filters, Tyers, Sparks Plugs, Shock absorbers, Tools. Customers search their auto parts by Products Name, Make Company, Model, Brand, or Category. They have a delivery service for their customers. [4]



## 2.6 System 05 – Euro Car Parts

They have a web page named Euro Car Parts. It is the largest spare parts shop in Europe. They have a search by option with Keyword, Category, Brand, or Part. They have Spare parts items such as Car parts, Batteries, Oils, Wiper Blades, Bulbs, Accessories, Car covers, Tools, etc. They have free options as free UK delivery over £25 fit it for me .250+ Stores Nationwide, Free click Collect here. It has a Winter Offer as Winter essentials:45% off parts. Customers can find their car parts easily by entering their number plate number of selecting their vehicle. [5]

## 2.7 System 06 – Care Distributers

They have a web page named Care Distributers. It is the Largest Spare Parts Shop in Australia. They have Free Shipping on Orders Over \$120. They have products such as workshop Equipment, Tools, Paints, Tapes, Plastic, etc. They have over 50 Brands including fusor,3M, Sata, and Polymer. [6]

## 2.8 Summary Table

Table 1: Summary Table

Features	Manual System	Proposed System	System 01	System 02	System 03	System 04	System 05	System 06
			Local				Foreign	
Flexible	No	Yes	Yes	No	Yes	Yes	No	No
Users	No	Yes	Yes	Yes	Yes	Yes	Yes	yes
Categories	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategories	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Search Items	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Customer Reg	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Delivery	Yes	Yes	No	No	No	Yes	No	Yes

### **3 CHAPTER 03 – PROPOSED SOLUTION**

#### **3.1 Functional Requirements of Proposed System**

##### **3.1.1 Staff Registration**

The staff is most important to this system. There is an Admin, Cashier, Stock keeper in this System. Admin is registered and creates username and password for cashier and stock keeper to log in to the system. Admin can do all functions such as Add, Delete, Edit, View.

##### **3.1.2 Customer Registration**

The customer is the most important person in this business. Customer registered by the admin because it wants to check the warranty of the spare parts.

##### **3.1.3 Category Management**

Spare parts have main Categories. They are cars, vans, motorbikes, buses, others, etc. They divide into these categories because they want to check available stock.

##### **3.1.4 Items Management**

In those categories, they have a lot of items such as body kits, engine parts, etc. We have to check the warranty, expiration date, prices, and quantity of those items.

##### **3.1.5 Inquiry Management**

In this inquiry management system, staff check the availability of the parts and ask about customers' names, IDs, order details and settle their bills. After that, they can come to the shop and make their payment and get their item.

##### **3.1.6 Order Management**

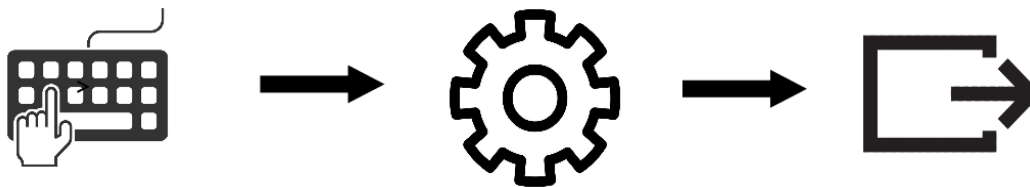
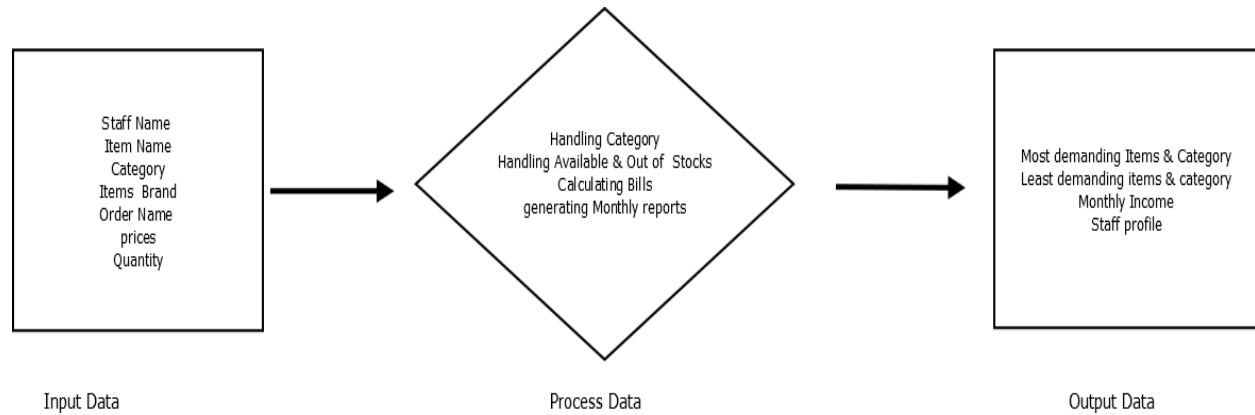
In this Order management system Make a bill, Calculate the total, put the date, include the item and warranty period. If you want, you can print it.

##### **3.1.7 Report Handling**

Here we can check what are the items that are at the highest sale and items that are at the lowest sale, can check the monthly profit & cost. Can check the staff members.

## 3.2 High-Level architecture of proposed System

Input-Process-Output model of the proposed System



*Figure 1: High Level architecture of proposed inventory management system*

## 3.3 Inputs

### 3.3.1 Staff Registration

- Staff Name
- Address
- Mobile Number
- Date of Birth
- Join Date
- Gender

### 3.3.2 Customer Registration

- Customer Name

- Date of Bought
- Mobile Number

### 3.3.3 Category Management

- Category details
- Add Category
- Quantity

### 3.3.4 Item Management

- Item code
- Add Items
- Name
- Quantity
- Price
- Brand

### 3.3.5 Order Management

- Date
- Order number
- Order description

## 3.4 Process

- Handling inventory according to the categories
- Handling out of stock items and categories
- Preparing order details based on customer request
- Generating monthly reports
- Calculating bills

## 3.5 Output information

- Most demanding item
- Least demanding item
- Monthly expenses
- Staff profile

- Outstanding staff member
- Available Stocks
- Monthly Profit

### 3.6 Resource Requirement

#### 3.6.1 Hardware Requirement

- Computer with 8GB RAM,1TB Hard Disk, Intel i5 Processor
- Display Screens
- Other Proper Input Devices
- Output Devices

#### 3.6.2 Software Requirement

- MySQL Data Base server
- Windows operating System
- Visual Studio

#### 3.6.3 Other Requirement

- Internet Connection
- Programming Language ex; C#(C-Sharp)

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### 3.7 Conclusion

- We make this system for Galle Auto Parts shop to make a solution for these problems. the problems are
  - i. There should be an extra place for storing the box that is used to note down transactions.
  - ii. As employees are also changing from time to time, they need to make aware by organization itself.
  - iii. All the transactions and items should be recorded in a book.
  - iv. Error in the bills and books.
  - v. Forget to Record of the transactions.

We hope to give a good service for our customers and employees through this new system.

# Appendix

## Gantt Chart

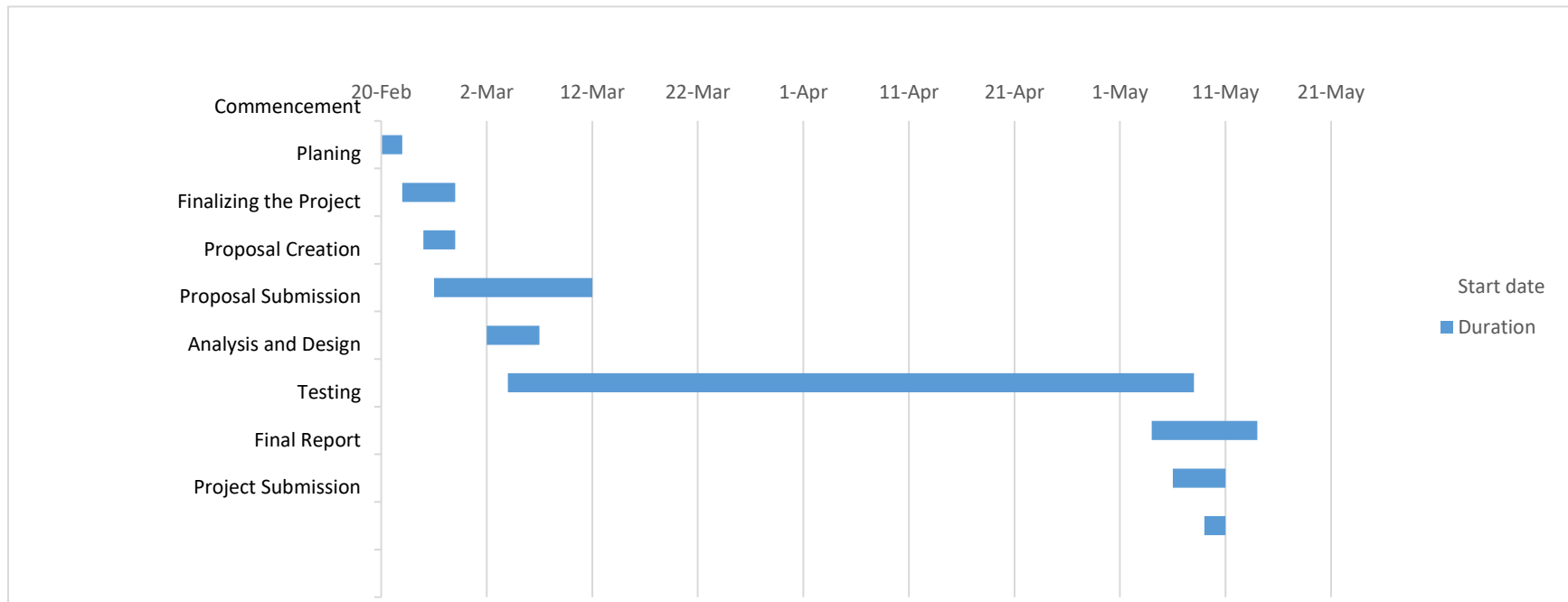


Figure 2Gantt Chart of Proposed System